1. Background

The Skokomish River flows from the Olympic Mountains through a wide valley into the Hood Canal. The valley area is the main location for agricultural activities and the Skokomish Indian Reservation. Due to extensive land use in this basin, salmonid fish populations are stressed in both fresh and marine waters and shellfish populations in the marine areas at the mouth of the river are compromised to the point of shellfish harvest closures. Due to historical timber land use practices and water diversion for power generation (and resulting land management changes as a result of these activities), flooding has become increasingly common in the Skokomish basin. Flooding of agricultural lands is problematic because livestock manure and topsoils can be flushed into streams, adding excess nutrients and turbidity. High sedimentation loading rates and nutrient loading problems from agricultural practices has increased the stressors to declining fish populations. Poorly managed agricultural activities near rivers often lead to decreased riparian cover and increases in stream temperature and water quality pollution. In addition, nitrogen loading in streams can lead to increased biological oxygen demand and less available oxygen for fish and other aquatic creatures. The low dissolved oxygen problems documented in the Hood Canal are likely impacted by excessive nitrogen pollution resulting from agriculture. "...agriculture is still one of the top anthropogenic nitrogen sources entering Hood Canal. (PACA)" In response to the recommendations made in the Skokomish River Detailed Implementation Plan (TMDL), the Hood Canal Lower Dissolved Oxygen Preliminary Assessment and Corrective Action Plan, and the Annas Bay Closure Response Strategy, Mason Conservation District (MCD) will provide technical and financial assistance to landowners in the WRIA 16. The goal is to guide agricultural activities within this region of Mason County to protect water quality and fish habitat. This will be a three year response strategy.

2. Problem statement

Well-managed agricultural activities protect and even enhance fish habitat, while poorly managed agricultural activities can degrade or compromise spawning/rearing habitat and high-flow refuge areas for juvenile salmon. In addition to fish populations, shellfish are at risk from poorly managed farm activities. In August of 2005, Washington State Department of Health (DOH) downgraded 300 acres on the east side of Annas Bay growing area from *Approved* to *Prohibited*. The area was downgraded due to high fecal coliform bacteria levels in marine water samples. The Skokomish Valley has a complex ecological situation with a variety of nonpoint source pollution issues. Pollution sources of concern in the Skokomish Valley-Annas Bay watershed include farm animal waste, pet waste, wildlife waste, and human sources. Agricultural activities must be improved to minimize negative impacts such as sedimentation, nutrient input, riparian vegetation loss, and other related problems by restricting

animal access to riparian areas, restoring lost riparian vegetation cover, stabilizing eroding stream banks, and better managing manure and nutrients that can pollute surface water via stormwater runoff. The actions outlined in this strategy are designed to identify and correct fecal coliform and other pollution sources within the boundaries of the Annas Bay Shellfish Protection District, and complement other pollution control action being carried out in the lower Skokomish River valley and on the Skokomish Indian Reservation.

The Annas Bay Shellfish Protection District is bordered on the west by Hwy 101 and runs south from Potlatch State Park to Brockdale Road; it then follows the ridgeline north to Union. At Union, the new district lies adjacent to the Lower Hood Canal Shellfish Protection District, which extends on both sides of the canal to Belfair.

The goal of this grant is to improve fish habitat adjacent to agricultural properties throughout the area of focus. Furthermore, activities resulting from this project will facilitate the upgrade of commercial shellfish beds in Annas Bay to *Approved* growing area classification through a significant reduction in fecal coliform pollution. These goals will be achieved through strategic actions carried out in partnership by public agencies and landowners.

Relevant Studies/Reports:

- The *Skokomish River Detailed Implementation Plan (TMDL)*, Hempleman, DOE, 2/03, pg. 5, states that "agricultural practices are likely the primary source of bacteria in the area of most concern". "The Skokomish River system provides valuable habitat for important species of fish such as: Chinook, Coho, and chum salmon; steelhead; and various trout. Chinook salmon and summer chum in this basin are listed as threatened species under the Endangered Species Act (ESA). Bull trout reside in the South Fork and North Fork of the Skokomish River and are listed as threatened under the ESA." *Skokomish River Basin Fecal Coliform Total Daily Load (Water Cleanup Plan),* Barreca and Seiders, DOE, 6/01, pg. 4.

- Hood Canal summer chum – status – critical
- Winter steelhead – status – depressed
- *"1992 Washington State Salmon and Steelhead Stock Inventory,"* WDFW. March 1993, pg. 50 and 51.

"The varied resources of the lower Skokomish River area are shared by many groups. The Annas Bay estuary area contains a rich shellfish resource that is used by tribal, commercial, and recreational harvesters. Recreational shellfish beds are located within, and to the south of, Potlatch State Park. Potlatch State Park is also a center of primary contact recreation, being used by swimmers and scuba divers. The mainstem Skokomish River and lower Vance creek are also used by swimmers and waders during the summer

months. The lower Skokomish River valley provides important habitat to a variety of terrestrial wildlife such as elk, deer, beaver, and waterfowl. The wildlife, shellfish, and fin-fish are important cultural and economic resources for the Tribe." (Barreca and Seiders, pg. 4)

3. Project Objectives

The project objective is to improve fish habitat in freshwater streams and estuary/marine waters by providing technical and financial assistance to agricultural landowners in the WRIA 16 area within Mason County. By continuing to provide technical and financial assistance MCD can implement best management practices (BMP's) while we have a captive audience.

- The MCD will concentrate on the non-point pollution issues addressed in the Skokomish River Basin Fecal Coliform TMDL. The TMDL primarily addresses agricultural practices. Livestock manure and storm water runoff into the waters are main sources of concern. These activities carry manure and fertilizers into the waterways as well as livestock having direct access to streams.
- The MCD will execute the agriculture component of the Detailed Implementation Plan that includes Best Management Practices for farm owners.
- Cost share will be made available for implementation of Best Management Practices (BMPs) and innovative practices that enhance and protect fish habitat.
- Conservation plans will be written to emphasize habitat-protection BMPs such as riparian fencing (that excludes animals from waterways), native vegetation retention or addition (along stream sides), proper land use management and nutrient application (to prevent excess nutrients from being carried into waterways), manure management (to prevent stormwater or flood water pollution that travels into streams), and pasture management and animal husbandry techniques that minimize polluted runoff.

By implementing Best Management Practices fish habitat will be protected from livestock overgrazing, streamside bank erosion and sedimentation, nutrient loading from manure, and similar concerns. This will reduce both nitrogen input and fecal coliform counts currently found in waterways.

4. Project Approach:

a. The project area includes all lands in the WRIA 16 area that have the potential to impact surface waters. This includes lands adjacent to main stem waters and tributaries, as well as the marine nearshore when appropriate. This will impact adult spawning, egg/alevin development, and juvenile rearing habitats of fish. The projects will be implemented on agricultural properties, and the highest priority for cost-share funds will be given to landowners on waterbodies.

b. Shannon Kirby, Environmental Specialist at Mason Conservation District, has worked for years in the watershed and has identified landowners to work with through her own technical assistance activities and through collaboration with agencies and the Skokomish Tribe. She has become very familiar with the surface waters and potential agricultural impacts to them through site visits to private properties, technical assistance activities, and water sampling activities. A number of landowners have been identified who would qualify for cost-share projects and are eager to make improvements to habitat on their properties. There is now a waiting list of landowners wanting to implement BMPs.

c. N/A

d. This project features several components: outreach and conservation planning with landowners; Best Management Practice and innovative practice design and implementation; and review of all practices to ascertain that they have been implemented and maintained to specifications. These elements will overlap and continually be applied throughout the funding period, as lands change hands and new individuals begin work with the MCD.

e. Riparian restoration methods will include native plantings along stream sides, bank stabilization where necessary, and other adaptive measures taken to ensure habitat protection and enhancement.

f. Costs were derived from grants awarded in this area previously and the cost of implementing Best Management Practices to specifications.

g. The Mason Conservation District has had a strong presence in this area for several years now. Whenever possible we use the Conservation Reserve Enhancement Program (CREP) to implement BMP's (voluntary easement and restoration program for riparian lands). However most landowners are not willing to sign up for a 10-15 year easement. The CREP program also does not fit well with smaller properties, of which there are many in the area of concern.

h. Depending on need and specific situations, the Mason Conservation District will work closely with Mason County, Department of Agriculture, Department of Ecology and the Skokomish Tribe. The Conservation District has a great working relationship with these entities and work together to respond to complaints.

i. Mason Conservation District has a current waiting list of over five area landowners wanting cost-share to implement Best Management Projects such as riparian fencing and plantings, nutrient management, stormwater management, and stream crossings. We anticipate that a minimum of double that number of landowners will work with the Conservation District over the course of the grant.

j. All landowners who receive cost-share assistance sign contracts that commit them to ongoing maintenance of projects for the "life expectancy" of the project, as determined by the Natural Resource Conservation Service.

k. This project was designed by Shannon Kirby, Environmental Specialist at Mason Conservation District. Engineering design will be provided by Rich Geiger, P.E., Mason Conservation District Engineer. Landowners are responsible for on-going operation and maintenance for the life expectancy of the BMPs. This will be monitored through on-going technical assistance relationships with District staff. The Mason Conservation District will call in outside assistance in areas outside of their expertise.

l. Currently fish populations in area rivers are in decline due to stressors. There is also a downgrade area in Annas Bay. Water quality in the area is poor and needs to be addressed immediately. Mason Conservation District has significant momentum with the agricultural community due to past funding in the area. A lot of farmers are interested and committed to "doing the right thing" *right now*, and this enthusiasm needs to be captured and used to protect and enhance fish habitat. If this opportunity to help cost-share Best Management Practices is lost, the great majority of potential improvements will not be made. This could result in cattle with direct access to streams, manure not applied properly, and continuing degradation of riparian vegetation and stream temperature problems, amongst other water quality issues. A lot of work has been done in the area but there is still more to do.

m. This project will be highly successful judging by past grant awards. The first grant the Mason Conservation District was awarded for this area took some time to establish itself due to a huge outreach need for people that did not particularly want to work with the Conservation District or understand the issues. At present the Conservation District has a willing, enthusiastic, and captive audience wanting to implement BMP's.

5. Tasks and Time Schedule

The Mason Conservation District will work with high priority landowners in the WRIA 16 area to reduce pollution; these high priority landowners are identified as having livestock with direct access to streams listed on the 303(d) list. Stream enhancement projects will be prioritized according to the degree of potential water quality and salmon habitat impairment. This information will be stored, utilized and updated on an existing inventory computer database. The MCD will design a minimum of 50 BMPs including agricultural and watershed restoration projects, prioritized to deliver maximum water quality benefit for fish and shellfish. The MCD will encourage landowners to implement a minimum of 50 BMPs and complete and implement Resource Management Plans. The MCD will plan and oversee the implementation of a minimum of 10 stream/waterway or wetland/habitat improvement projects.

- The MCD will continue to update the GIS system upon completion and assessment of all agricultural or habitat improvement or restoration projects. The MCD will continue to update BMP status information in its farm inventory database for inclusion in the final report.
- Technical assistance for agricultural activities provided under the terms of this grant shall be consistent with current U.S. Natural Resource Conservation Service (NRCS) standards and or/ Technical guide. However, technical assistance, proposed practices, or project designs that do not meet these standards may be accepted if approved by the funding agency.
- The MCD will utilize $80,000 for landowner cost-share to implement BMPs. There is currently a waiting list of BMPs to be implemented and will be prioritized upon the highest environmental effectiveness and on a first come first serve basis. The MCD will provide 75% of funds and the landowner will provide 25% of funds.
- The MCD will continue to promote the Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentives Program (EQIP) and other Natural Resource Conservation Service (NRCS) programs.
- MCD will follow the action matrixes of the Detailed Implementation plan and the Annas Bay Closure Response Strategy as guidance.
- Education/ Outreach/Public Awareness and Involvement: The MCD will provide recognition to farmers who participate in the development of a farm plan and/or implement conservation practices on their property. Each farmer will be offered a conservation sign that they can post to inform the public that local farmers and the MCD are taking action to prevent water quality degradation.
- The Kids with Conservation Knowledge (KWICK) youth education program will provide hands on experiences for students in the WRIA 16 area to improve and enhance their environmental education.
- The MCD will be available to participate in community events and speak to various groups to promote stewardship in WRIA 16. The MCD will keep Mason County Commissioners, legislators, and other interested entities advised of grant status.
- The MCD will continue to work closely with the Skokomish Tribe to improve water quality and salmon habitat. The MCD will work together with the Skokomish Tribe to seek funds to plan and implement projects for both tribal and non-tribal lands

6. Constraints

The program will have no problem unless all cost-share funds are utilized before the grant has ended. Some flexibility is requested regarding technical assistance money and cost-share funds. If cost-share dollars are expended, it would be ideal to have flexibility to use technical assistance money for the implementation of BMP's so that habitat protection projects are put on the ground.